SEQUENCE LISTING

<110> Schwarz, Margaret A.

<120> METHODS OF FACILITATING VASCULAR GROWTH IN CARDIAC MUSCLE AND METHODS FOR THE PRODUCTION OF RECOMBINANT EMAP II

<130> 9022-20

<140> US 09/733,306
<141> 2000-12-08

<150> US 60/171,874
<151> 1999-12-23

<150> US 60/197,558
<151> 2000-04-17

<150> US 60/231,759
<151> 2000-09-12

<150> US 60/241,138
<151> 2000-10-17

<160> 6

<170> PatentIn version 3.3

<210> 1
<211> 14
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic polypeptide

<400> 1

Cys Asp Ala Phe Pro Gly Glu Pro Asp Lys Glu Leu Asn Pro
1 5 10

<210> 2
<211> 1086
<212> DNA
<213> Mus musculus

<220>
<221> CDS
<222> (64)..(993)

<400> 2
gaggctgctc aagagctgcg gttgggtcac cgcttcatgt ttctctgccg attctgggga 60

aag atg gca acg aat gat gct gtt ctg aag agg ctg gag cag aag ggt 108
Met Ala Thr Asn Asp Ala Val Leu Lys Arg Leu Glu Gln Lys Gly
1 5 10 15

gca gag gcg gat cag atc atc gaa tat ctc aag cag cag gtt gct ctt 156
Ala Glu Ala Asp Gln Ile Ile Glu Tyr Leu Lys Gln Gln Val Ala Leu

```
                                20                  25                  30

ctt aag gag aaa gca att ttg cag gca aca atg aga gaa gaa aag aaa          204
Leu Lys Glu Lys Ala Ile Leu Gln Ala Thr Met Arg Glu Glu Lys Lys
            35                  40                  45

ctt cga gtt gaa aat gct aaa ctg aaa aaa gaa ata gaa gag cta aag          252
Leu Arg Val Glu Asn Ala Lys Leu Lys Lys Glu Ile Glu Glu Leu Lys
        50                  55                  60

caa gag ctg att ctg gca gaa att cat aac gga gtg gag caa gtg cgt          300
Gln Glu Leu Ile Leu Ala Glu Ile His Asn Gly Val Glu Gln Val Arg
    65                  70                  75

gtt cga ttg agt act cca ctg cag acg aac tgt act gct tct gaa agt          348
Val Arg Leu Ser Thr Pro Leu Gln Thr Asn Cys Thr Ala Ser Glu Ser
80                  85                  90                  95

gtg gtg cag tct cca tca gta gca acc acc gcc tct cct gct aca aaa          396
Val Val Gln Ser Pro Ser Val Ala Thr Thr Ala Ser Pro Ala Thr Lys
                100                 105                 110

gag cag atc aaa gcg gga gaa gaa aag aag gtg aaa gag aag act gaa          444
Glu Gln Ile Lys Ala Gly Glu Glu Lys Lys Val Lys Glu Lys Thr Glu
            115                 120                 125

aag aaa gga gag aaa aag gag aag cag cag tcg gca gca gca agt act          492
Lys Lys Gly Glu Lys Lys Glu Lys Gln Gln Ser Ala Ala Ala Ser Thr
        130                 135                 140

gac tcc aag cct atc gac gca tcg cgt ctg gat ctt cga att ggt tgt          540
Asp Ser Lys Pro Ile Asp Ala Ser Arg Leu Asp Leu Arg Ile Gly Cys
    145                 150                 155

att gtt act gcc aag aag cac cct gat gca gat tca ctg tat gtg gag          588
Ile Val Thr Ala Lys Lys His Pro Asp Ala Asp Ser Leu Tyr Val Glu
160                 165                 170                 175

gaa gta gat gtg gga gaa gca gcc ccg cgc acg gtc gtc agc ggg ctg          636
Glu Val Asp Val Gly Glu Ala Ala Pro Arg Thr Val Val Ser Gly Leu
                180                 185                 190

gtg aat cat gtt cct cta gaa cag atg caa aat cgt atg gtg gtt tta          684
Val Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Val Leu
            195                 200                 205

ctc tgt aat ctg aag cct gca aag atg cgg gga gtt ctg tct caa gcc          732
Leu Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln Ala
        210                 215                 220

atg gtg atg tgt gcc agt tca cca gag aaa gtg gag att ctg gcc cct          780
Met Val Met Cys Ala Ser Ser Pro Glu Lys Val Glu Ile Leu Ala Pro
    225                 230                 235

ccc aac ggg tcc gtt cct ggg gac aga att act ttt gat gct ttt cct          828
Pro Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe Pro
240                 245                 250                 255

gga gag cct gac aag gag cta aac cct aag aag aag atc tgg gag cag          876
Gly Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu Gln
                260                 265                 270
```

```
atc cag cct gac ctg cac acc aat gct gag tgt gtg gcc aca tac aaa      924
Ile Gln Pro Asp Leu His Thr Asn Ala Glu Cys Val Ala Thr Tyr Lys
            275                 280                 285

gga gct ccc ttt gag gtg aag ggg aag gga gtt tgc aga gcc caa acc      972
Gly Ala Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln Thr
        290                 295                 300

atg gcc aat agt gga att aaa taagtgctct gtaactgaaa gacattggcg       1023
Met Ala Asn Ser Gly Ile Lys
    305                 310

aaaacttaat aacaataaag agaagtgtgt ttatcactta catataaaaa aaaaaaaaaa   1083

aaa                                                                1086
```

<210> 3
<211> 310
<212> PRT
<213> Mus musculus

<400> 3

```
Met Ala Thr Asn Asp Ala Val Leu Lys Arg Leu Glu Gln Lys Gly Ala
1               5                   10                  15

Glu Ala Asp Gln Ile Ile Glu Tyr Leu Lys Gln Gln Val Ala Leu Leu
            20                  25                  30

Lys Glu Lys Ala Ile Leu Gln Ala Thr Met Arg Glu Glu Lys Lys Leu
        35                  40                  45

Arg Val Glu Asn Ala Lys Leu Lys Lys Glu Ile Glu Glu Leu Lys Gln
    50                  55                  60

Glu Leu Ile Leu Ala Glu Ile His Asn Gly Val Glu Gln Val Arg Val
65                  70                  75                  80

Arg Leu Ser Thr Pro Leu Gln Thr Asn Cys Thr Ala Ser Glu Ser Val
                85                  90                  95

Val Gln Ser Pro Ser Val Ala Thr Thr Ala Ser Pro Ala Thr Lys Glu
            100                 105                 110

Gln Ile Lys Ala Gly Glu Glu Lys Lys Val Lys Glu Lys Thr Glu Lys
        115                 120                 125

Lys Gly Glu Lys Lys Glu Lys Gln Gln Ser Ala Ala Ala Ser Thr Asp
    130                 135                 140
```

```
Ser Lys Pro Ile Asp Ala Ser Arg Leu Asp Leu Arg Ile Gly Cys Ile
145                 150                 155                 160

Val Thr Ala Lys Lys His Pro Asp Ala Asp Ser Leu Tyr Val Glu Glu
                165                 170                 175

Val Asp Val Gly Glu Ala Ala Pro Arg Thr Val Val Ser Gly Leu Val
            180                 185                 190

Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Val Leu Leu
        195                 200                 205

Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln Ala Met
    210                 215                 220

Val Met Cys Ala Ser Ser Pro Glu Lys Val Glu Ile Leu Ala Pro Pro
225                 230                 235                 240

Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe Pro Gly
                245                 250                 255

Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu Gln Ile
            260                 265                 270

Gln Pro Asp Leu His Thr Asn Ala Glu Cys Val Ala Thr Tyr Lys Gly
        275                 280                 285

Ala Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln Thr Met
    290                 295                 300

Ala Asn Ser Gly Ile Lys
305                 310
```

<210> 4
<211> 312
<212> PRT
<213> Homo sapiens

<400> 4

```
Met Ala Asn Asn Asp Ala Val Leu Lys Arg Leu Glu Gln Lys Gly Ala
1               5                   10                  15

Glu Ala Asp Gln Ile Ile Glu Tyr Leu Lys Gln Gln Val Ser Leu Leu
            20                  25                  30

Lys Glu Lys Ala Ile Leu Gln Ala Thr Leu Arg Glu Glu Lys Lys Leu
        35                  40                  45
```

Arg Val Glu Asn Ala Lys Leu Lys Lys Glu Ile Glu Glu Leu Lys Gln
50 55 60

Glu Leu Ile Gln Ala Glu Ile Gln Asn Gly Val Lys Gln Ile Ala Phe
65 70 75 80

Pro Ser Gly Thr Pro Leu His Ala Asn Ser Met Val Ser Glu Asn Val
85 90 95

Ile Gln Ser Thr Ala Val Thr Thr Val Ser Ser Gly Thr Lys Glu Gln
100 105 110

Ile Lys Gly Gly Thr Gly Asp Glu Lys Lys Ala Lys Glu Lys Ile Glu
115 120 125

Lys Lys Gly Glu Lys Lys Glu Lys Lys Gln Gln Ser Ile Ala Gly Ser
130 135 140

Ala Asp Ser Lys Pro Ile Asp Val Ser Arg Leu Asp Leu Arg Ile Gly
145 150 155 160

Cys Ile Ile Thr Ala Arg Lys His Pro Asp Ala Asp Ser Leu Tyr Val
165 170 175

Glu Glu Val Asp Val Gly Glu Ile Ala Pro Arg Thr Val Val Ser Gly
180 185 190

Leu Val Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Ile
195 200 205

Leu Leu Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln
210 215 220

Ala Met Val Met Cys Ala Ser Ser Pro Glu Lys Ile Glu Ile Leu Ala
225 230 235 240

Pro Pro Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe
245 250 255

Pro Gly Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu
260 265 270

Gln Ile Gln Pro Asp Leu His Thr Asn Asp Glu Cys Val Ala Thr Tyr
275 280 285

Lys Gly Val Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln
290 295 300

Thr Met Ser Asn Ser Gly Ile Lys
305 310

<210> 5
<211> 166
<212> PRT
<213> Homo sapiens

<400> 5

Ser Lys Pro Ile Asp Val Ser Arg Leu Asp Leu Arg Ile Gly Cys Ile
1 5 10 15

Ile Thr Ala Arg Lys His Pro Asp Ala Asp Ser Leu Tyr Val Glu Glu
20 25 30

Val Asp Val Gly Glu Ile Ala Pro Arg Thr Val Val Ser Gly Leu Val
35 40 45

Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Ile Leu Leu
50 55 60

Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln Ala Met
65 70 75 80

Val Met Cys Ala Ser Ser Pro Glu Lys Ile Glu Ile Leu Ala Pro Pro
85 90 95

Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe Pro Gly
100 105 110

Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu Gln Ile
115 120 125

Gln Pro Asp Leu His Thr Asn Asp Glu Cys Val Ala Thr Tyr Lys Gly
130 135 140

Val Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln Thr Met
145 150 155 160

Ser Asn Ser Gly Ile Lys
165

<210> 6

<211> 13
<212> PRT
<213> Artificial

<220>
<223> Synthetic polypeptide

<400> 6

Asp Ala Phe Pro Gly Glu Pro Asp Lys Glu Leu Asn Pro
1 5 10